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ABSTRACT

This study examined the impact that the training in and the experience of using an innovative instructional program had on the practices and attitudes of teachers who were no longer in the supportive setting. Three years after two innovative Title I programs--Free Learning Program (based on the Bank Street Model), and Primary Education Project--were terminated, teachers were asked to identify the program aspects, (instructional strategies, management techniques, curriculum components, etc,) which they continued to use in their current setting. Data were collected through mailed questionnaires and personal interviews; they indicated that program aspects persisted in the teachers' repertoire. Attributes of program aspects that contributed to program survival involved financial and social costs; efficiency; compatibility with conventional practices; complexity; amount of approval needed from other persons, or gatekeepers; and susceptibility to modification. Of the training which teachers received concerning the innovative programs, the all-day inservice workshops were most enthusiastically supported. (Author/GDC)

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Continuing Effects:
A Study of Knowledge Utilization

by

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The advent of the social reform movement of the sixties and federal intervention in education to help improve schools for the economically and educationally disadvantaged students generated an immense interest in all facets of the educational process. This movement resulted in an extensive effort in the design and development of educational products ranging from instructional curricula to new school organizational structures. Many such products were introduced to school districts as part of Federal programs that supported educational improvement, e.g., the Right to Read Program, the Follow Through Program. It was thought that the research based instructional innovations, combined with the massive Federal funding of the new programs would so impact the school classroom that dramatic changes in the face of education would soon result.

Although innovative instructional programs permeate the educational scene today, little is known about what happens to the programs when they get into the schools or what impact they have on the people involved with them. These programs have frequently been evaluated by assessing and comparing the academic progress of students through the use of pre and post measures. Test results are analyzed using standard statistical procedures and program effects are reported as the presence or absence of "significant differences". Although studies such as these can be informative, they don't provide an assessment of the total effect of the school change effort and frequently deny any program impact on the school environment. In addition to the measurement of the academic achievement of students, studies of program effects on teachers, educational practices, administrators, community, etc. need to be undertaken in order to gain an understanding of what happens to innovations in schools and what happens to the users.

The research reported in this paper pertains to the broad school domain, but focuses on one target for examining program outcomes, i.e., the

teacher; The overarching objective of educational research and development is to change classroom practices in order to improve instruction for the students. Nearly all instructional innovations have at least one common element: a teacher is required to implement the program. The general approach to this study is to regard the teacher as the actual consumer - the ultimate user of the innovation. It is the teacher who interacts daily with the student; it is the teacher who is the final "gatekeeper" through whom the innovation must pass. Therefore, the teacher should be an important area for the study of innovation impact.

An additional dimension of this research is that long term or sustained program effects on teachers are examined. Although the major study by Berman and McLaughlin (1978) looked at institutional and program factors that promote program continuation, follow-up studies of instructional innovations have tended to focus on the school system as the unit of analysis and have concluded that if the innovation does not show as an item in the budget, the innovation is no longer present and change in the system has not occurred. However, one measure of the impact of any innovative instructional program should be the extent to which any of its components are so impressive that they have an extended life in the classroom despite school district termination of the program.

The purpose of this research is to examine the long-term impact that the experience of being trained in and having used an innovative instructional program has on the practices and attitudes of the classroom teacher in the non-supportive setting. The term "Continuing Effects" is used to describe those features of an innovative program that are retained by the teacher, i.e., instructional strategies, management techniques, curriculum components, general principles, etc. Do any changes take place that are attributable to the program? Is anything still being used that was learned in

the program? The broader research effort addressed questions in four main areas:

1) What program aspects are being continued or discontinued? What factors enhance or inhibit program continuation?

2) What are the characteristics of the teachers who are continuers-discontinuers? Is transfer related to teacher background characteristics e.g. educational level?

3) What are the adaptations teachers make? What is the range of complexity?

4) Is any second stage diffusion occurring i.e., from the teacher to other people in the current setting - what is the level of awareness, and attitudes of other school personnel about use of program aspects?

Only the first area, "program aspect survival and factors that contribute to continuation", is dealt with in this paper.

Setting

This study is a systematic follow up of a group of teachers who were trained and taught in two innovative Title I programs before the programs were terminated by the school district. It is not an evaluation of program success or a comparison of the two programs. Rather, it is an attempt to describe how the process of program continuation works in the classroom setting and to identify some factors that contribute to long term usage of program features. This study was conducted in a large urban school district and is an extension of previous research reported by Mitroff and Boston (1977) as "Program Residuals - Or Did They Throw Out the Baby with the Bath." The residual study was conducted one year after program support was withdrawn; this current research was carried out during 1978-79 school year, three years after program termination.

In 1969, as part of the ESEA Title I Program two different early childhood innovative instructional models were implemented in selected target-area schools. One of the models, later known as the Free Learning Pro-

gram (FRELEA), was developed locally by a group of school district personnel. It followed closely the Bank Street College open classroom model (Delano, 1973). The other model was developed by the Learning Research and Development Center (LRDC) at the University of Pittsburgh. This model, the Primary Education Project (PEP) combined a highly structured basic skills curriculum with more open-ended exploratory activities to foster personal and social growth (Wang, 1980). PEP was in three schools while FRELEA was in twenty-nine public and parochial schools. Both models or programs were introduced into one grade level each year until they were operating in grades K-3. During this time, the classroom teachers were receiving support for their efforts in the form of materials, training, and classroom aides. In 1976 FRELEA and PEP were eliminated as budget items in the Title I contract.

Method

The approach to this study is descriptive field research through the use of the survey method. Data were collected by means of a mailed Questionnaire and personal interviews conducted with a sample of former innovative program teachers. The Questionnaire was developed through an iterative process which included program developer/implementor consultations, use of pervious findings, and pilot testing with program teachers. The items were designed to measure specific features of the programs. It was assumed that program features thus identified were not present in the teachers repertoire prior to the program, at least not to the extent that they were structured and organized in the program. The interview items were designed to examine major themes that emerged from the Questionnaire information.

Questionnaires were mailed to 130 teachers identified from the school rosters for 1975-76 school year, the program transition year, prior to termination. After a follow up mailing to non-responders, a total of 70 usable Questionnaires remained.

Twenty five interviews were conducted in ten schools by the senior author. Anecdotal data supplied by the teachers in written form on the Questionnaire and verbally during interviews, were read and reread and classified many times. The data analysis was exploratory in nature. Since this study relied on quantitative and anecdotal data supplied by the teachers, the usual caution surrounding the limitations of self-reporting and retrospective reporting can be advanced. There is also a built in bias present in the data, since the responders are mainly program continuers. At this time, there is no information about the non-responders.

Subjects

The participants in the study were teachers who had had experience in either of the two innovative programs which had been terminated three years prior to the study. A profile of the "average participating teacher" was derived from the aggregate data collected by the Questionnaire on five background characteristics:

Age: 35-36
Total Years of Teaching Experience: 10-14 years
Highest Degree Held: Bachelor's Plus
Years at Current Grade Level: 6-10 years
Years Teaching in Innovative Program: 4 years

All but one of the participants in this Continuing Effects study remained within the school district setting where the innovative programs had been in operation. However, contextual conditions varied from teachers who were still teaching at the same grade level in the same school with the same principal as when the program was in operation, to teachers where all these conditions had changed and to teachers who were in other than "classroom" situations. The majority of the teachers are still teaching in grades kindergarten through third grade.

RESULTS AND DISCUSSION

The results of this study are organized around three major questions. First, what program aspects did the teachers use in the original operation of the program, and which of these aspects survive in the current setting? Second, are there any attributes of innovative program aspects that can enhance or inhibit their chances for survival? Third, are there any program characteristics that might account for the "continuing use" of knowledge gained from the experiences of teaching in the innovation?

Program Aspects

The checklist on program aspects was organized around five major program Components which were common to both innovative programs; Physical Arrangements and Classroom Management, Curriculum, Record Keeping, Techniques for Individualizing, and Additional Resources. Within these five components, 30 PEP program aspects and 36 FRELEA aspects were originally identified and presented on the Questionnaire. Teachers were asked to check each aspect they had actually "used" in the original operation of the program. They were also asked if they "continue to use" the program aspect in their current setting.

Use of Program Aspects in the Original Operation of the Program.

When the teachers were asked to identify specific program aspects they had used in operating the program, the majority of the teachers reported using a majority of the program aspects. A small number (5) of the aspects were reported utilized by so few teachers, that they didn't appear to be key aspects of the program. These aspects have been eliminated, since they could not provide information for further analysis of "continuing use". Five other aspects were regrouped for analysis. The remaining program aspects (56) are listed in Tables 1 and 2. Table 1 provides information about PEP program aspects and the responses of the

thirteen former PEP teachers. FRELEA program information is presented in Table 2, where a total of fifty-seven teachers responded.

The number of teachers reporting "use" of an aspect in the original operation of the program is presented in the first column in both tables. It can be seen, for instance, by looking down the first column in the PEP Table 1, that eight program aspects were reported at the 100% level of usage. This means that thirteen out of the thirteen teachers said they had used the aspect when the innovative program was in operation. In the FRELEA Program, Table 2, six program aspects were reported used at the 100% level; fifty-seven of the fifty-seven teachers reported "use" in original operation of the program.

A total of thirty-six aspects, (19 PEP and 17 FRELEA) were reported as "used" at the 90% level or above in the original operation of the program. Reported usage of aspects in Tables 1 and 2 ranged from 100% usage for about one-forth (14) of the individual aspects to a low of 61% for one PEP aspect (Selected/Directed/Skills). Variations in levels of usage of specific program aspects has also been found in studies measuring the degree of implementation during actual program operation (Fullan and Pomfret, 1977). In spite of the variation in usage, this group of teachers identify these program aspects as having been used during the actual operation of the program.

Continuing Use of Program Aspects

On the Questionnaire teachers were asked if they continue using aspects in their current school setting. The number of teachers reporting "continuing use" is presented in Column two of Tables 1 and 2.

As an aid in handling the data, an Index of Continuation was developed for each program aspect. It was calculated as a ratio of those reporting Continuing Use to those reporting Use in Original Operation of Program. The Index of Continuation (IOC) is displayed in column three in Tables 1 and 2.

TABLE 1

Number of PEP Teachers Reporting Initial Use and Continuing Use of Specific Program Aspects (N=13)

Program Aspects	Number of Teachers Reporting Use in Original Operation of Program	Continuing Use	Index of Continuation Col. 2 ÷ Col. 1
Physical Arrangement and Classroom Management			
Exploratory area	13*	12	.92
Prescriptive area	12	6	.50
Testing center	13*	7	.54
Positive Reinforcement	13*	13	1.00
"Flags"	12	5	.42
Systematic Behavior Management	11	9	.82
System for assigning areas	12	9	.75
Learning Centers	12	10	.83
Curriculum			
IPI Reading	12	3	.25
IPI Math	13*	6	.46
Classification/Quantification	10	7	.70
Perceptual Skills	9	9	1.00
Sound/Blend System	12	10	.83
Selected/Directed/Skills	8	4	.50
Math Mainteance	10	8	.80
Manuals	12	6	.50
Record Keeping			
Placement	12	9	.75
Cumulative record	12	8	.66
Weekly assignment sheets	10	5	.50
Progress profiles	12	9	.75
Individualizing Techniques			
Pre-tests	13*	13	1.00
Post-tests	13*	12	.92
Placement Tests	13*	12	.92
Curriculum Embedded Tests-CETS	10	4	.40
Prescription (tickets)	11	9	.82
Traveling	13*	12	.92
Cassette Instruction	10	3	.30
Additional Resources			
Classroom Aide	12	8	.66

* Program aspects displaying 100% usage in the original operation of the program.

Table 2

Number of FRELEA Teachers Reporting Initial Use and Continuing Use of Specific Program Aspects (N=57)

Program Aspects	Number of Teachers Reporting: Use in Original Operation of Program	Continuing Use	Index of Continuation Col. 2 ÷ Col. 1
Physical Arrangement and Classroom Managment			
Desk or tables grouped	56	49	.88
Children's Work Displayed	57*	56	.98
Flexibility of time, space	56	54	.96
Small Group Instruction	57*	55	.96
Independent Activities	57*	56	.98
Peer Teaching	49	49	1.00
Projects	44	37	.84
Group Charts, Checklists	53	48	.91
Learning Centers	54	53	.98
Curriculum			
Teacher Made Materials	57*	53	.93
Music Activities	49	39	.80
Art Activities	56	52	.93
Eurythmics	46	24	.52
Creative Writing	47	45	.96
Language Experience	56	54	.95
Math Activities	57*	54	.95
Perceptual Activities	53	52	.98
Record Keeping			
Teacher/Pupil Folders	57*	57	1.00
Anecdotal Records	40	37	.92
Teacher/Pupil Files	43	39	.91
Charts, checklists	55	54	.98
Individualizing Techniques			
Diagnostic Use of MAT/Ginn	40	40	1.00
Teacher made CR Tests	45	45	1.00
Observation	56	52	.93
Activity Cards	53	46	.87
Independent Study	41	35	.85
Cassette Instruction	46	35	.76
Additional Resources			
Classroom Aide	53	31	.58

* Program aspects displaying 100% usage in the original operation of the program.

A review of the IOC indicates that the degree of continuation differs by aspect. The extent of aspect continuation ranges from .25 to 1.00, an IOC shared by seven different aspects. For the most part, though teachers report a substantial continuation of innovative program aspects; only five aspects show less than 50% continuation. How can this situation be explained in light of the elapsed time since program termination and the absence of resources and support mechanisms? Why are teachers able to continue aspects? What are the factors that enhance or inhibit continuation?

Aspect Attributes

Just as the studies on the degree of program implementation suggest that some innovative program features are implemented more often than others, the data from this study indicate that some program aspects are continued more often than others.

In this section individual program aspects will be examined to see if those aspects which show either a high IOC or a low IOC have any attributes in common. While much of the research has focused on the early "adoption" stage of the innovation (Carlson, 1965; Miles, 1964; Rogers and Shoemaker, 1971), few major studies have explored the latter "continuation" stage. For this reason the literature on the adoption phase was examined for innovation attributes which can be applied to the data on program aspects.

Zaltman, Duncan, and Holbek (1973) discuss attributes of innovations which "have been found to be relevant for describing, explaining, and predicting responses to innovations." (p 33) Their discussion covers the potential impact of nineteen attributes on the adoption of an innovation. These attributes were originally posed by Lin and Zaltman (1973).

While all nineteen innovation attributes have impact on the adoption phase, they do not all have impact on the continuation phase. There are seven attributes which, in our judgment have an impact on the continuation phase; they are: financial costs, social costs, efficiency, compatability, complexity, gatekeeper involvement, and susceptibility to modification.

1. Financial cost is one of the most obvious dimensions that would impact the continuation stage. Would the user have to assume costs in order to transfer this particular program aspect?

2. Social cost, being another form of expense may also have an impact on the user's decision to continue or discontinue a particular program aspect. Under social costs are included such things as being subject to ostracism or ridicule by colleagues. Would the user be recognized or set apart as odd or different if this aspect were present in the classroom?

3. Efficiency refers to "overall time-saving and avoidance of bottle-necks". Would the aspect contribute to the users comfortableness and the efficient management of time?

4. Compatibility, according to Lin and Zaltman, concerns the similarity of the innovation to the existing product which it may ultimately supplement, complement, or replace. In the case of our study it refers to the compatibility of these program aspects with traditional instruction (TI). Can the program aspect be interspersed with traditional instructional models without conflict?

5. Complexity is dealt with on two levels. Does the program aspect embody complex ideas? And/or is it complex in its actual implementation?

6. Gatekeeper involvement refers to the number of "gatekeepers" e.g. principals, supervisors, etc. who need to be passed or "trespassed" before the user can employ the practice/procedure in the current setting. Does the use of the aspect require active involvement of others outside the classroom?

7. Susceptibility to modification concerns whether or not the program aspect can be modified or adapted to current settings. Can it be integrated with the curriculum which is in use in the current setting?

The program aspect/attribute analysis procedure described here is an exploratory one. Research on this topic is still in the early stages, so there is a need to explore methodologies that can be refined by future research.

As an outcome of discussions with colleagues concerning the seven attributes, and based on the authors' collective knowledge and experience in dealing with all phases of an instructional innovation's life cycle, an Ideal Pattern of Attributes was formulated. The question asked was whether the presence (+) or absense (0) of the attribute would contribute to the chances of survival of the program aspect. The pattern of positive/negative attribute designations which would yield the best chances for continuation of program aspects is presented in the following list.

Financial Costs	0
Social Costs	0
Efficiency	+
Compatibility	+
Complexity	0
Gatekeeper Involvement	0
Susceptibility to Modification	+

The attributes of Financial Costs, Social Costs, Complexity, and Gatekeeper Involvement have all been designated as zero (0), since the presence of these attributes in an aspect represent factors that could inhibit continuation. On the other hand, Efficiency, Compatibility, and Susceptibility to Modification have been designated as plus (+), since they represent factors that could enhance continuation.

The next step in the examination of program aspects and innovative attributes was to select eight aspects showing a high IOC and eight showing a low IOC. Included in the final list were aspects from both programs and from each component. A matrix was set up, and the authors proceeded independently in the completion of the matrix. In each cell an assignment of a plus or zero was made dependent upon the judgment as to whether the

program aspect possessed the attribute. After completing the matrix independently, each cell was discussed and consensus reached on those items where there was a difference of opinion. The results of this procedure are displayed in Table 3 where the eight high and the eight low continuing program aspects are presented in light of the seven innovation attributes.

Table 3 was then examined to see if any different characteristics emerge for high continuing aspects and low continuing aspects. First, each column was inspected for similarity and differences in attributes of the two groups of aspects. Second, the two groups were compared to the Ideal Pattern of Attributes and some generalities were drawn.

Attributes. High Continuing Aspects (HCA) display a more consistent designation of attributes than the Low Continuing Aspects (LCA).

Financial Costs. Financial costs do not have to be assumed by the user when using HCA. A financial cost is associated with two LCA.

Social Costs. Only one HCA, Exploratory Area, entails any social costs; three LCA exhibit this attribute.

Efficiency. All HCA contribute to the efficient use of time; only three LCA do.

Compatibility. All HCA except one, Exploratory Area, are seen as compatible with traditional instruction; only two LCA are.

Complexity. HCA show a mixture of positive/negative designations; all LCA are seen as complex.

Gatekeeper Involvement. Only one HCA and one LCA require gatekeeper involvement.

Susceptibility of Modification. All HCA are susceptible to modification; only three LCA display this attribute.

Program Aspects. The group of high continuing aspects possess attribute designations that are closer to the Ideal Pattern of Attributes than the low continuing ones. In fact, five HCA display the ideal pattern of positive and negative attribute designations; none of the low continuing aspects show this pattern. One low aspect, IPI Reading, shows a totally

Table 3

Innovative Attributes Impacting Continuing Program Aspects

Program Aspects	Attributes: Financial Costs	Social Costs	Efficiency	Compatibility	Complexity	Gatekeeper Involvement	Susceptibility to Modification
High Continuing Aspects (HCA)							
Positive Reinforcement*	0	0	+	+	0	0	+
Pre-tests	0	0	+	+	+	0	+
Peer teaching*	0	0	+	+	0	0	+
Teacher/Pupil Folders*	0	0	+	+	0	0	+
Diagnostic Use Mat/Ginn	0	0	+	+	+	+	+
Exploratory Area	0	+	+	0	+	0	+
Perceptual Activities*	0	0	+	+	0	0	+
Creative Writing*	0	0	+	+	0	0	+
Low Continuing Aspects (LCA)							
IPI Reading	+	+	0	0	+	+	0
Cassette Instruction	+	+	+	0	+	0	0
CET's	0	0	0	0	+	0	0
Eurythmics	0	+	0	0	+	0	+
Prescriptive Area	0	0	+	0	+	0	0
Weekly Assignment Sheets	0	0	+	+	+	0	+
Music Activities	0	0	0	+	+	0	+
Testing Center	0	0	0	0	+	0	0
Ideal Pattern	0	0	+	+	0	0	+

Note: A plus (+) means the attribute is present in the program aspect,
A zero (0) means the attribute is not present in the program aspect.

*Aspects that match the Ideal Pattern

opposite pattern from the ideal.

The preceding discussion shows that it is possible to distinguish among High Continuing Aspects and Low Continuing Aspects. Program Aspect continuation is not dependent on any one attribute for survival. However an ideal pattern of attributes, such as the one presented here, could provide some guidelines for predicting program aspect survival. Such information has implications for program developers. The closer a program aspect resembles the ideal pattern of positive/negative designations of innovation attributes, the better its chance for survival in the teaching practices of the classroom teacher. There is no guarantee, though, that if an aspect displays the ideal pattern, or near ideal pattern, that it will be continued. Aspect attributes are just one factor that can contribute to the survival or discontinuation of innovative programs.

Program Characteristics

The two innovative programs examined in this paper were products of a systematic implementation plan that included training, monitoring of progress, special materials, a classroom aide, and other professional resources. In this section some comments made by teachers about the program resources will be presented and resources will be discussed in terms of their contribution to "continuing use" of the program.

During the time the two programs were in operation, five resource and support mechanisms were provided in the form of professional training and personnel:

> Summer Workshops. These Program specific workshops were conducted prior to school opening and were separate from the regular two day pre-service days.
>
> All day in-service workshops. These regularly scheduled workshops were held during the school year; they were conducted by Program staff who were responsible for program implementation.

Team Leader. This person functioned as the Program on-site facilitator within one school.

Supervisory Instructional Specialist. The person was the administrator appointed "Supervisor" who was responsible for all teachers in 5 to 6 schools.

Program Staff. People in this category were specially trained in the Program and were responsible for teacher training and Program implementation. PEP field representatives were "outside" consultants. FRELEA staff were School Board employees.

Teachers were asked to rate these five program resources on a scale of 0 to 5 in terms of their value as resources for professional growth during the program experience. All resources except the Supervisory Instructional Specialist had mean ratings of 3.0 or above. "All Day In-Service Workshops" consistently maintained the highest rating. These workshops were also one of the "most missed" program aspects reported by the teachers in the interviews. Teachers said they valued these occassions because they provided the opportunities to exchange ideas and techniques; provided access to games, materials, and equipment; and were a source of stimulation, incentive, and motivation.

> I really miss the all day in-service workshops. They were a constant incentive to try new ways of teaching, using new materials. They also kept me in touch with what was going on in the public schools.

The Program staff, FRELEA workshop staff and/or the PEP consultant staff, was rated next highest. These groups of people provided in-service and program support. Teachers commented that they missed the professional interaction with these people, which constituted support for the program.

> I really miss the Program. I have always valued the workshops and I was also impressed with the people who were responsible for the workshops each month. I felt they put a lot of thought and work into making them interesting and instructional. The program changed my attitudes to teaching in the classroom very much.

Summer workshops received the third highest rating. The Team Leader (fourth) and the Supervisory Instructional Specialists (fifth) were close in their ratings. The Supervisory Instructional Specialist was not a program specific function. The Team Leader, however, was unique to the program. Teacher comments suggest that the usefulness of the Team Leader function was related to the person performing it:

> I also miss having a Team Leader to consult with. Sometimes it is necessary to have a sounding board for ideas -- and it works out even better if that person is totally familiar with the classroom.

> Three different Team Leaders with three different philosophies were in charge over the five-year period. Each one emphasized a certain area: Learning centers, activity cards, independent activities, contracts, etc., so I've dealt with almost every item mentioned here in the checklist. My reactions each year depended a lot on the input I was allowed (or not allowed) and amount or lack of pressure to fulfill some of my own needs as a creative person.

It is interesting to note that rankings of program resources by these teachers are quite similar to the rankings of the very same items in the 1976 Residual Study (Mitroff and Boston, 1979). The passing of time doesn't seem to have diminished the teachers' perception of program experiences in regard to the support structures.

Both of these innovative programs required the teachers to make their own materials in order to implement the program. Not only do many of these materials survive termination, but teachers report they continue to create their own materials.

> I still have thousands of task cards I made in the Program - I'll never give them up! In the Program we had a lot of workshops, materials, and had time to make good materials.

> I spent hours and weeks last summer making my own materials -- did it all on my own time.

> We put all of the auditory motor activites on individual cards - spent the whole summer typing every single thing from the auditory book.

Activities such as making materials during the program operation, can contribute to program continuation in many ways.

As a result of the experiences and training in the program, teachers built up attitudes that can influence their use of the program. The general theme of positive committment repeatedly emerged in both the interviews and comments supplied by teachers on the Questionnaires. Even those teachers who commented negatively about particular program aspects and the program in general reported continuing use of techniques learned in the program. Here are some statements teachers made about the program:

> The program was very beneficial to me as a teacher. The techniques and ideas used in FRELEA helped me grow as a teacher. I found that with the help of FRELEA activities, workshops, and team leaders, I was able to benefit myself as well as the children. Just the sharing among different teachers was very beneficial.

> As is obvious from my responses, I believed in the PEP Program and still do. I would love to bring it back completely, but I do manage to keep as much of it going as I can.

Teacher committment to the program can also be illustrated by their predictions of how long they will continue to use the program. Invariably, when teachers were asked the question about how long they could continue, they replied that they would always use it. Here are some teacher replies:

> I'll continue to use program aspects indefinitely, you have to adapt, but I'll still keep using it. For example, in decoding, I may not use all the steps, but I use it; it's internalized.

> I won't stop using the program aspects because I've become comfortable with it and the kids are now self-relient, they're not constantly waiting for the next direction. I'll change only if a better program comes along.

It appears that one of the most powerful determinents of innovative program continuation can be teacher committment to the philosophy, goals, and operation of the program. This committment is brought about by the experiences encountered during the life of the program, and can enhance survival of the program.

In the Rand Report (1978) Berman and McLaughlin advance seven elements of locally chosen implementation strategies that enhance program implementation and continued use of the program at the classroom level (p. 34). The data from the Continuing Effects study were reviewed in order to determine if any factors similar to these seven elements emerge as contributors to the continuance of program aspects. The elements and discussion follow.

Element 1: Concrete, teacher specific, and extended training.

The innovative programs examined in this study give evidence of having provided program/teacher specific in-service. Training was provided throughout the entire time the programs were in operation.

Element 2: Classroom assistance from project or district staff.

Support systems were integral parts of the programs, and the data suggest that they played a significant role in the program operation. This element combined with element one, probably accounts for teacher commitment to the programs.

Element 3: Teacher observation of similar projects in other classrooms, schools, or districts.

Although information on this element was not specifically requested by the study, it is known that observation, demonstrations, and sharing workshops were part of the teacher training. There are teacher statements in the data to substantiate this element.

Element 4: Regular project meetings that focused on practical problems.

Once again this element is not necessarily addressed in the study. But in addition to the "All day in-service project workshops",

school project meetings were conducted regularly by the team leader.

Element 5: Teacher participation in project decisions.

This study did not address the question of teacher participation in project decision making. However, what it does show is that teachers frequently question the decision making process, but adjust to the consequences.

Element 6: Local materials development.

One very important feature that emerges from the data is that the Program teachers were heavily involved in materials development; the time, the supplies, and the training for such an effort were all readily available.

Element 7: Principal participation in training.

Although the data do not reveal this element directly, it is known that during the program operation, both orientation and training were available for the principals.

As can be seen from the preceding discussion, the data from the present study support all but one of the seven elements presented by Berman and McLaughlin. One additional element should be added to the list if it is to be used as a framework for examining continuing effects. That element pertains to the Time the program was in operation and the Time the teacher taught in the innovative setting. The two programs in this study lasted a number of years - they were not short term innovations. Teachers need time to "internalize" the new experience. Hall and Loucks, (1977) Loucks (1978) propose that it takes teachers varying amounts of time to reach the different stages in their eight Levels of Use. They further suggest that it takes one and a half to two years of teaching in a new program before teachers move beyond the Mechanical Use stage. Innovative programs should be given a reasonable amount of time to be adopted, implemented, and operationalized before any

program impact or continuing effects can be assessed.

Summary

In this paper, program aspects from two innovative programs were examined to see if any survive in the teacher's practices in the classroom. An Index on Continuation (IOC) was developed as a means of identifying the survival rate of aspects in the current setting. It was seen that the teachers in this study report continuing a high number of program aspects even after three years have elapsed since the school district's official termination of the program. Given that teachers report continuing use of aspects, attributes of the aspects themselves and characteristics of the programs were examined to see how they contribute to continuation.

An Ideal Pattern of Aspect Attributes was formulated based on seven innovation attributes proposed by Lin and Zaltman (1973). A group of high and low continuing aspects were compared to each other and to the Ideal Pattern. It was brought out through this procedure, that attributes of innovative program aspects can help determine the chances for survival.

Seven elements that enhance implementation and continuation (Berman and McLaughlin, 1978) were compared to known program characteristics. All but one of the elements was accounted for by the program characteristics. It has been suggested here that committment to the principles of the "program" accumulated through training, on-site assistance, materials making, and experience using the program played an important part in the continuation reported by the teachers.

Although the data in this paper may be criticized by the self-reporting nature and the lack of measurement of the frequency of the continuing use of the aspects, data gathering techniques used in this study are sufficient to provide some insights into what happens to innovations and the users.

The paper serves to illustrate that knowledge gained in the innovative programs is still utilized by teachers.

CONCLUSIONS

In this paper it has been argued that innovative program outcomes should be determined by examining effects on the total school environment in addition to the usual student achievement measurement. This stance was taken in the belief that such documentation constitutes a legitimate contribution to the determination of knowledge utilization and a refutation to the claim that nothing can be changed by R & D. Since there is no real theory or clear definition of knowledge utilization we have adopted an operational definition which asks the question "How do you know that knowledge is being used?" And we answer that, if after three years since program termination, teachers who particpated in the innovative environment can still relate to, identify, and articulate how their current practices were affected by such participation, then knowledge is being used. The data from this rather unique longitudinal study demonstrates that teachers are able to report what is being utilized. We rest our case on the empirical data: what the teacher, the ultimate user of the instructional innovation, says is happening. As one teacher so profoundly commented: You don't think we're going to throw away everything we learned! Do you?

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